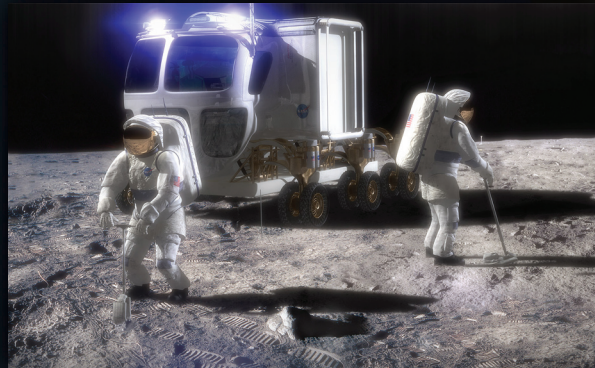


## A Joint Collaboration between NASA's Human Research Program and the University of Houston's Department of Health and Human Performance

Exciting research opportunities await you in the Space Life Sciences PhD curricular track at the University of Houston (UH), located in Houston, Texas, near NASA Johnson Space Center (JSC). This track was designed by NASA's Human Research Program (HRP) to encourage the growth of space life scientists, promoting HRP's vision for healthy human travel during long duration spaceflight and exploration missions.



The UH main campus is in close proximity to JSC, the space center leading human spaceflight research. This proximity allows UH students the opportunity to learn from and interact directly with JSC scientists, as well as with NASA-funded scientists throughout the United States. Through coursework and multi-site rotation opportunities, students will learn invaluable research skills and obtain first-hand content knowledge necessary for a future career as a successful space life scientist.

The Space Life Sciences PhD curricular track is offered under UH's Department of Human Health and Performance (HHP) for students specializing in a Doctorate of Philosophy in Kinesiology. It is also available (with advisor permission) to students in other departments.

**National Aeronautics and Space Administration**  
Johnson Space Center  
2101 NASA Parkway  
Houston, Texas 77058  
[www.nasa.gov](http://www.nasa.gov)

National Aeronautics  
and Space Administration



**Space Life Sciences PhD Curricular Track**  
**reach for the stars!**







## SPACE LIFE SCIENCE COURSES

The space life science courses are designed to introduce students to the biological, physiological and psychological stressors associated with spaceflight; the natural human responses to those stressors; the potential health, safety, and performance risks associated with the adaptive responses; and the countermeasures developed to mitigate the risks. Typical space physiology course topics include:

### Cell Biology

- + Cells in Space
- + Microbiology
- + Toxicology
- + Radiation and Biological Effects of Radiation
- + Pharmacotherapeutics
- + Immunology

### System Physiology

- + Bone
- + Nutrition
- + Muscle
- + Exercise
- + Cardiovascular
- + Sensory-Motor
- + Psychology

Additionally, students learn about ground-based spaceflight research, and how NASA applies knowledge regarding cell and system physiology changes to simulated reduced gravity research environments on Earth.

## ROTATION OPPORTUNITIES

Students may choose from a variety of laboratory settings in which to conduct their research. Students may rotate in a biomedical research laboratory on-site at JSC or at NASA's Flight Analog Research Unit in Galveston, TX. Students may also choose to rotate at UH's Center for Neuromotor and Biomechanics Research or in the HHP Laboratory of Integrated Physiology.

## FUNDING OPPORTUNITIES

Possible funding opportunities are available through UH's student research and teaching assistantships. Funding may also be available through individual JSC laboratories, through HRP or other NASA sources.



For more information on this collaboration, visit any of the following links below:

## NASA

Human Adaptation & Countermeasures Division  
<http://hacd.jsc.nasa.gov/resources/education.cfm>

Human Research Program  
<http://humanresearch.jsc.nasa.gov/research.asp>

## UH (HHP)

Doctorate of Philosophy in Kinesiology  
<http://www.hhp.uh.edu/doctornalnew/>

Doctoral Curriculum in Space Life Sciences  
<http://www.hhp.uh.edu/space-life-sciences/>

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